# *Naval Science & Technology Overview*

## *Office of Naval Research*

*presented to the*

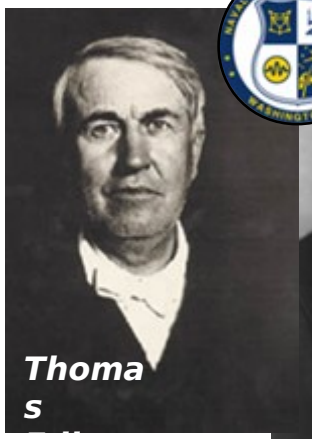
## MATOC Pre-Proposal Conference

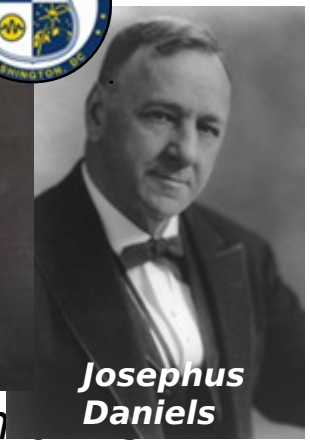
**21 April 2004**
**Arlington, Virginia**

***http://www.onr.navy.mil***

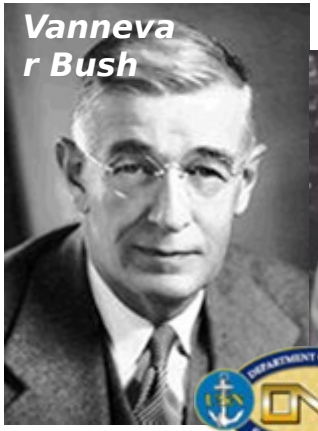
# Naval Research: An Enduring and Evolving Mission

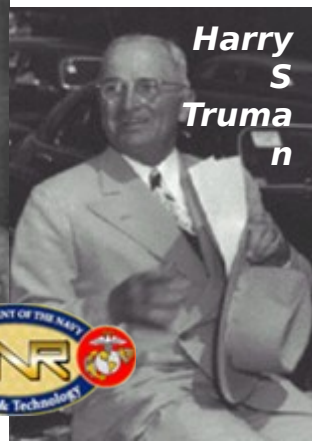
**Naval Research Laboratory *(Appropriations Act, 1916)*:** *"[Conduct] exploratory and research work … necessary… for the benefit of Government service, including the construction, equipment, and operation of a laboratory…."*



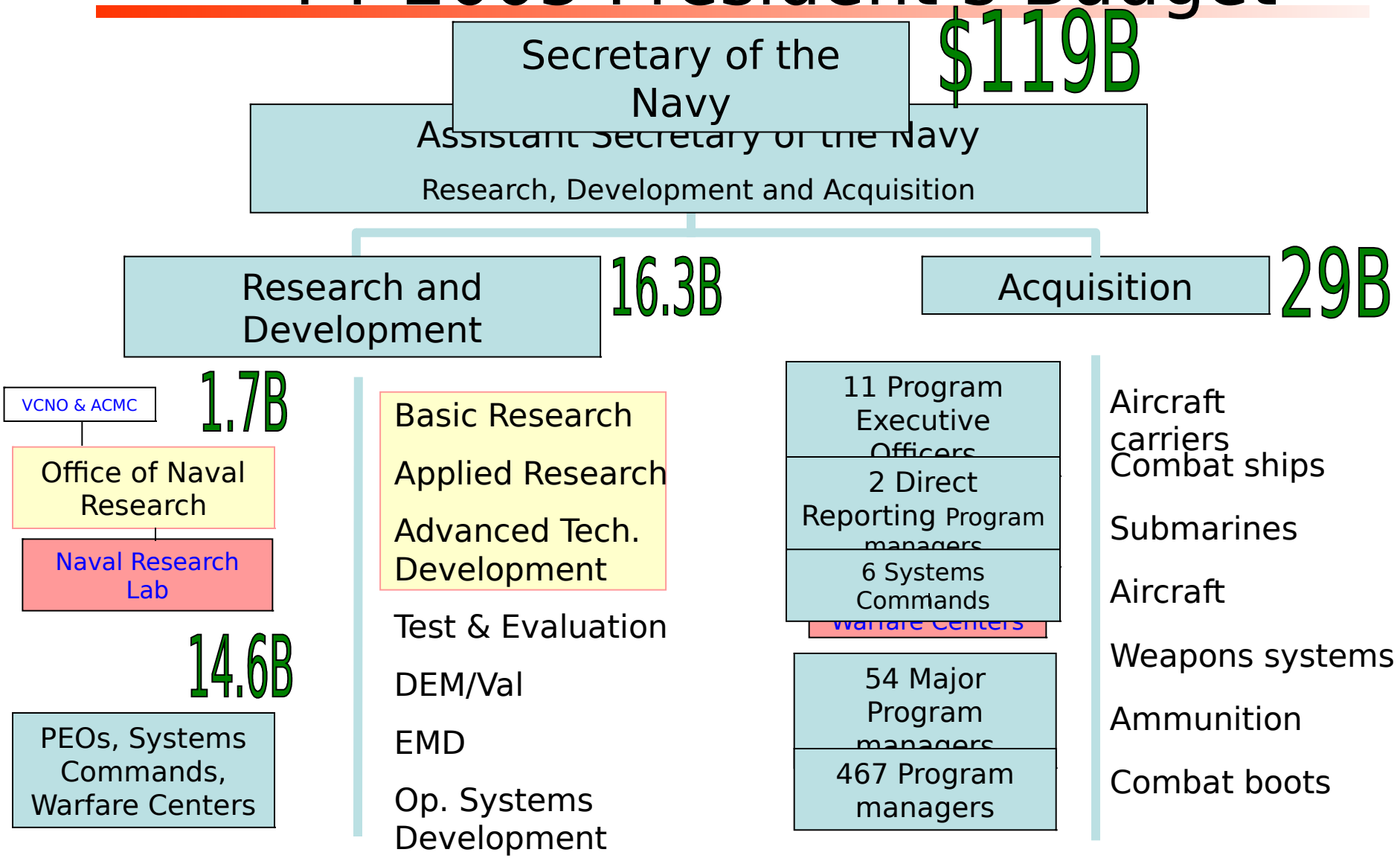

**Office of Naval Research *(Public Law 588, 1946)*:**
*"… plan, foster, and encourage scientific research in recognition … paramount importance as related to the maintenance of future naval power, and the preservation of national security…. "*




**Transitioning S&T *(Defense Authorization Act, 2001)*:**
*"…manage the Navy's basic, applied, and advanced research to foster transition from science and technology to higher levels of research, development, test, and evaluation."*

# Naval S&T in Context: FY 2005 President's Budget




Source: FY05 Blue Book, FY05 R-1

# S&T Investment Categories

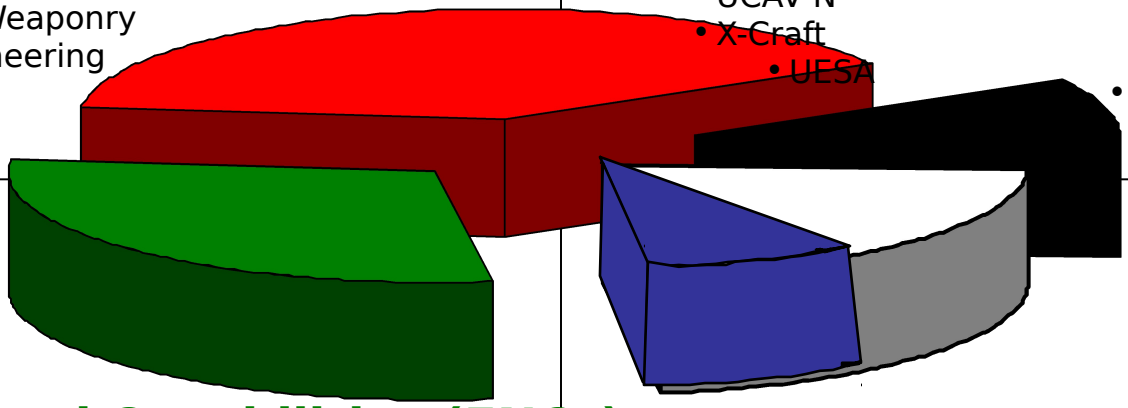
## *POM 06*

### Discovery & Invention (D&I)

- NRL Base Program
- Science shortfalls in topics with Naval interest
- Nurturing science opportunity
- High impacts/surprises
- Health of Academic pipeline – ideas/workforce
- National Naval Responsibilities
  - Ocean Acoustics
  - Undersea Weaponry
  - Naval Engineering

### Innovative Naval Prototypes (INPs)

- Affordable Weapon
- Half-Length Torpedo
- Electromagnetic Gun
- Hy Fly-Hypersonic Strike
- Free Electron Lasers
- UCAV-N
- X-Craft
- UESA
- Virtual Technologies & Environments
- Persistent Littoral Undersea surveillance
- SEA Basing Enablers
- Tactical Use of Space
- 36 MW Superconducting Motor
- Advanced Multifunction RF System



### Future Naval Capabilities (FNCs)

- Time Critical Strike (TCS)
- Organic Mine Countermeasures (OMCM)
- Knowledge Superiority & Assurance (KSA)
- Littoral Antisubmarine Warfare (LASW)
- Expeditionary Logistics (ExLog)
- Fleet/Force Protection (FFP)
- Littoral Combat and Power Projection (LCCP)
- Missile Defense (MD)
- Advanced Capability Electric systems (ACES)
- Autonomous Ops (AO)
- Total Ownership Cost Reduction (TOC)
- *Capable Manpower (CM)*
- *Warfighter Protection (WP)*

### Quick Reaction and Other

**Quick Reaction**

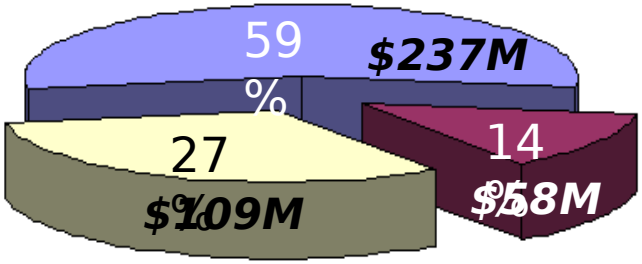
- SwampWorks
- Tech Solutions
- MCWL

**Other**

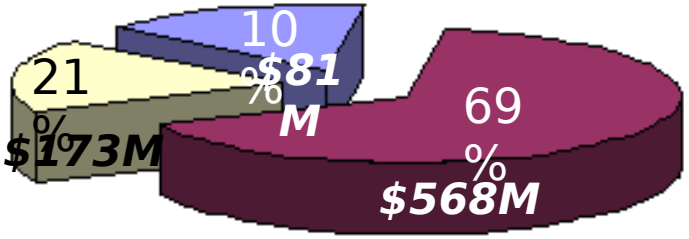
- Pass-Through - to JFCOM
- OSD Directed
- Infrastructure - Efforts enabling ONR's mission execution such as IFO, conferences, outreach

# Naval S&T Investment by Performer

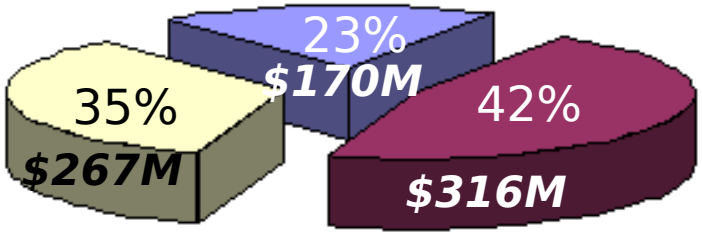
6.1




6.3




6.2



| | BA 1 | BA 2 | BA 3 |
|---|---|---|---|
| College/University | 237 | 170 | 81 |
| Industry | 58 | 316 | 562 |
| Navy | 109 | 267 | 173 |

*FY03 $M as reported in the FY04 National Science Foundation Survey of Federal Funds for RDT&E*

# ONR Organization

## Information, Electronics & Surveillance (31)

- *Electronics Division (311)*
- *Mathematical, Computer, & Information Sciences Division (312)*
- *Surveillance, Communications, & Electronic Combat Division (313)*

## Ocean, Atmosphere & Space (32)

- *Sensing & Systems Division (321)*
- *Processes & Prediction Division (322)*

## Engineering, Materials & Physical Science (33)

- *Physical Sciences Science and Technology Division (331)*
- *Materials Division (332)*
- *Mechanics & Energy Conversion Division (333)*

## Human Systems (34)

- *Medical Division (341)*
- *Cognitive, Neural & Biomolecular Division (342)*

## Naval Expeditonary Warfare (35)

- *Strike Technology Division (351)*
- *Expeditionary Warfare Operations Technology (353)*

## Industrial & Corporate Programs (36)

- *Manufacturing S & T Division (361)*
- *Product Innovation Division (362)*
- *Corporate Programs Division (363)*
- *SBIR/STTR Division (364)*